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Irises

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Irises

by David F. Graper, Extension horticulturist

Garden irises are hardy, long-lived perennials that need a minimum of care. They are an established "backbone" of home gardens because they bloom when few other plants do -- after spring-flowering bulbs and before peonies, delphinium, and phlox.

Irises are easy to grow and produce graceful flowers in a wide range of shapes, sizes, and colors. Several thousand cultivars of irises are available, so you can select those that will provide the colors you want in your garden.

Description . . .

Iris flowers have six petals. The three upright petals are called standards; the three that hang down are called falls. Flowers can be white, yellow, pink, purple, blue, reddish, or bicolored. They can measure from two to over six inches across.

Although many different cultivars of iris may be hardy and suitable for growth in South Dakota, the two principal types grown are the bearded iris and the beardless iris.

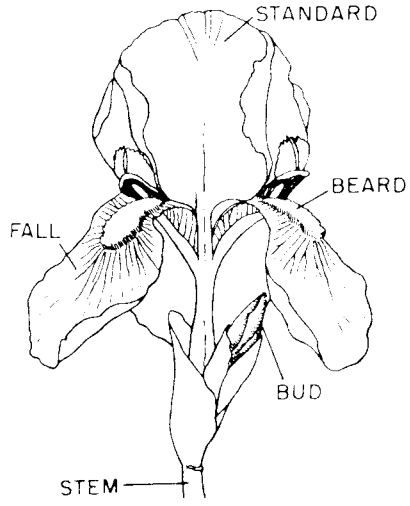
Bearded irises

These iris hybrids have a fuzzy line or beard that runs down the middle of the falls. They also are called German iris (from the old name *Iris germanica*) and are the most commonly grown species. Bearded irises can survive severe droughts and cold. The sword-shaped leaves remain green until late fall. Bearded irises are available in a wide range of heights from the dwarfs that are four to eight inches tall to the tall types that can reach a height of four feet.

The dwarf iris are well adapted to planting in rock gardens where they spread rapidly and form a dense mass of leaves. The taller cultivars perform well in larger flower beds whether planted in small groups, massed, or mixed with other perennials.

Bearded irises bloom in May and June with the shortest cultivars blooming first and the tallest cultivars blooming last.

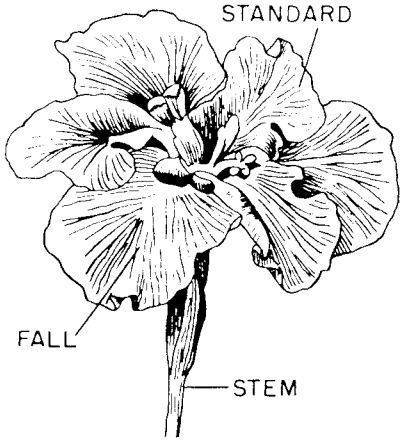
Bearded irises produce large rhizomes and need to be divided regularly to maintain vigor and appearance.



Bearded iris

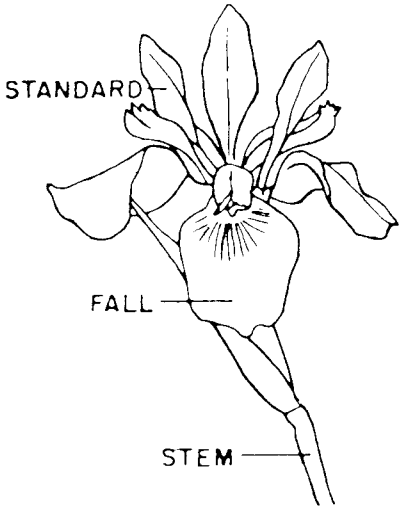
Beardless irises

These irises have smooth fall petals and thin, grasslike leaves. Plants grow one to four feet tall. Japanese *(Iris kaempferi)* and Siberian *(Iris sibirica)* irises are the most commonly grown beardless species. Beardless types, which thrive in moist slightly acid soil, frequently are planted on stream and lake banks. Most cultivars bloom in June.



Japanese iris (beardless)

Japanese irises have soft, drooping standards and wide falls. Plants grow two to four feet tall. Flowers are in a range of shades of white, blue, lavender and pink. The large, flat blooms are borne on long stems among dark green, swordlike leaves which remain green all season. Rhizomes grow slowly and seldom need division.



Siberian iris (beardless)

Siberian irises have stiff, narrow falls and narrow, upright standards. Stems grow 18 inches to two feet tall. The flowers, which are smaller and more delicate than bearded varieties, are held just above the foliage and range in shades of white, blue, and violet. Siberian iris develop small rhizomes with many roots, spread slowly, and seldom need division.

How irises grow . . .

Both the bearded and beardless irises grow from thick, underground stems called rhizomes that store food produced by the leaves. Rhizomes grow slightly below the surface of the ground or at ground level. Many small roots penetrate the soil deeply. Every year, underground offshoots develop from the original rhizome. Offshoots may be divided and transplanted to grow new irises.

A rhizome that will produce a plant has at least one bud or growing point. Each bud produces a large fan of leaves and a flower stalk. Irises grown from rhizomes should bloom the next spring after planting, if they were handled properly.

Planting irises . . .

Irises may be planted in triangles or clumps, in borders or in beds with other garden flowers.

When to plant

Irises are best transplanted a few weeks after blooming at which time the plants are in a rest period. In South Dakota, this is usually from mid July to early September. This planting schedule should give iris rhizomes time to bcome established in the soil before winter.

Most nurseries and garden centers sell rhizomes only during planting season. If you order irises by mail, they usually will arrive at the proper planting time. Plant rhizomes as soon as practical after you receive them. You also may find some container-grown irises available in the spring. Transplant these into the garden as soon as possible.

Where to plant

Irises need full sunshine. Select a site with southern exposure and good air circulation. Bearded irises need a neutral to slightly alkaline soil with good drainage; rhizomes may rot in soil that holds excessive water. Beardless types need moist soil that is slightly acid.

Preparing the soil

Prepare the bed one to two weeks before planting irises to allow the soil time to settle. Dig and loosen the soil at least 18 inches deep.

Apply commercial fertilizer to enrich poor soil in the iris bed. Use organic matter to improve soil structure and productivity. For poor soil, add one-half pound of a 5-10-5 fertilizer for each five by ten foot area or one-half cup for every six or seven rhizomes. Thoroughly mix fertilizer into the soil so that lumps of it do not touch iris roots. Spading organic matter, compost, well-rotted manure, or peat moss into relatively heavy soil may improve drainage.

When planting beardless iris, mix large amounts of peat moss into the soil to add organic matter, increase water holding capacity, and help make the soil more acidic.

How to plant

In a well-prepared bed, dig a shallow hole large enough to receive the rhizome or clump of rhizomes you are planting.

Planting depth is determined by the type of garden soil. In medium soil, plant rhizomes just below ground level. In light or well-drained soil, make sure the top of the planted rhizome is one to two inches below ground level. In heavy soil, the top of the planted rhizome should be slightly above ground level.

Before replanting a full-grown iris, cut leaves to one-third their full height. Place the rhizome parallel with the ground surface. Carefully spread the roots. Fill the hole with soil and press it firmly in place around the rhizome. Water immediately; thoroughly soak soil around roots.

To obtain a good display of iris color, use at least three rhizomes of the same cultivar in a triangle or a pattern that alternates plants in rows. Plant rhizomes about 18 inches apart. Point each fan of leaves away from other plants in the group. If you want to produce masses of flowers quickly, plant undivided rhizome clumps or set three individual rhizomes eight to ten inches apart.

Care of iris . . .

Water plants often enough before blooming time to keep soil moist but not wet. Remove weeds and grass around the rhizomes. Before plants bloom, loosen the surface soil with a hoe or hand cultivator. Be careful not to injure the rhizomes or the roots. Old blooms may be removed to improve plant appearance and discourage seed production.

Plants that are growing well with good green foliage should not need extra fertilization. However, a light application of fertilizer, applied immediately after plants bloom, may be helpful for plants grown in poor or infertile soil.

Work the fertilizer into the soil around plant bases. Use about one-third cup of 5-10-5 fertilizer for six small plants or about one cup for a large iris clump.

In early fall, if iris are heavily infested with disease, cut leaves six to eight inches from the ground. Remove old foliage after it has died to the ground.

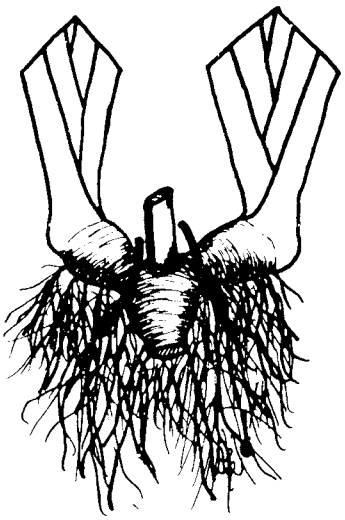
All irises need mulch the first season after planting. Apply a light layer of straw or evergreen boughs after the ground freezes. Mulch prevents the alternate freezing and thawing of the soil that harms plants by pushing them out of the soil.

Dividing irises . . .

When plants become crowded, divide the offshoots from the rhizomes. Irises will need to be divided two to five years after planting. Divide and transplant irises in the late summer or early fall after plants have bloomed.

Cut leaves to one-third their full height. Dig under a clump of rhizomes and lift out the whole clump at once. Wash away soil with a steady stream of water.

Make small divisions if you do not want to redivide iris for at least three, perhaps five years. Make large divisions if you want many flowers the year after planting. Plan to separate large divisions in two or three years.



Small iris clump showing proper division for replanting. Discard the central portion. Replant the two side "fans" for bloom next year.

Cut rhizomes apart with a clean, sharp knife. Rinse knife in alcohol or 10% bleach to disinfect between cuts.

Each division must have at least one growing point (or fan of leaves), a few inches of healthy rhizome, and a number of well-developed roots. When separated from the original iris clump, each division is ready to plant.

Iris diseases . . .

Iris diseases reduce the number of flowers, disfigure the leaves, and sometimes kill the plant. Prevent diseases by giving plants plenty of space, sunlight, and good drainage. Clean up dead material quickly. Do not plant irises in crowded or completely shaded areas.

Chemicals effective for controlling fungal diseases includes Benomyl, Bordeaux mixture, Chlorothalonil and Phaltan.

Bacterial soft rot

This is the most destructive iris disease. Bacteria enter the plant through breaks in the rhizome. Leaf bases and rhizomes soften, take on a water-soaked appearance and have a foul odor as rot develops. The first symptom of the disease is the collapse of healthy leaves caused by the deterioration of the leaf bases. Unchecked, the disease will soon kill the plant.

Soft rot may be controlled by avoiding damage to the rhizomes, particularly by controlling iris borers. Dig up the diseased rhizomes. If rot is extensive, destroy the iris. Cut out and discard diseased parts on less seriously affected plants. Be certain to remove all diseased debris in the soil before replanting. Always disinfect trowels and other tools during and after use to avoid spread of the disease.

Fungus rots

Sclerotic rots attacks irises in warm, humid areas or plants that are excessively crowded. The fungus affects plants at or near the soil surface. The leaves turn yellow and dry prematurely or rot off at the base. Small, yellowish-brown, seedlike structures appear in and on rotted tissue which allow the disease to overwinter in the soil.

Botrytis rhizome rot occurs in cool areas. The fungus produces small, black, seedlike structures on the rhizomes and in the soil which allow the disease to overwinter. A dry, pithy, gray rot develops in the leaf bases and rhizomes.

Dig and burn plants that are seriously infected with either kind of fungus rot. Remove soil from the surrounding area; replace it with new soil. Cut out the rotted areas of slightly damaged rhizomes.

Iris leaf spot

This common fungal leaf spot disfigures leaves and weakens plants. About flowering time, infected leaves are dotted with small, brown "eye" spots about one-eight to one-fourth inch in diameter. Water-soaked margins around the spots turn yellow. Spots later

develop grayish centers with black fruiting tufts. The leaf spot fungus overwinters in old leaves and produces new spores in the spring.

If iris leaf spot has been a problem in your area, spray or dust the plants with a fungicide every two weeks from the time leaves emerge until they stop growing. In late summer, cut back foliage below signs of disease. Remove dead foliage in fall or before shoots appear in spring.

Rust and bacterial leaf spot

Rust and bacterial leaf spot weaken, but seldom kill, iris plants. Rust produces small, raised, dark red dots on iris leaves. Bacterial leaf spot causes dark green, watery spots and streaks. The spots later turn yellow and become translucent.

Remove and burn all leaves that show signs of rust or bacterial leaf spot. Do not let any diseased leaves remain around plants. Infected leaves harbor spores that spread rust and leaf spot.

Mosaic

Iris mosaic, the most widespread disease of irises, is caused by a virus transmitted by aphids. Diseased flowers may be mottled or striped. Light green streaks appear on the leaves of some plants. Many infected plants do not show signs of disease. Individual plants may have typical symptoms at one season of the year and appear disease-free at another season.

Dig up and burn irises that show severe mosaic damage. Reduce the spread of iris mosaic by controlling aphids.

Iris insects . . .

Insect pests of iris usually are not a severe problem except in the case of the iris borer. Often the major damage from insects results from the spread of disease rather than from the insect damage itself. Useful insecticides include Orthene, Sevin, Safer's Soap, Malathion and Diazinon.

Iris borer

The iris borer causes more damage to iris than all other insects. The pink caterpillars have rows of black spots along their sides. They are about one and a half inches long when full grown. Iris borer adults are large brown moths with black markings. First symptoms of borers are tear stains and chewed leaf edges that appear on leaves in early spring. Irises later develop loose, rotted bases and holes in rhizomes.

Borer larvae hatch in early spring from overwintering eggs, usually when the young leaves are five or six inches high. These caterpillars pierce leaves and tunnel into the stem. Then they bore into the rhizome, where they remain to feed and grow. The tunnels usually begin a few inches above the ground and are quite visible. At maturity, larvae leave the rhizome and pupate in the soil. Bacterial rhizome rot readily attacks borer infested plants.

To eliminate overwintering eggs, clean up and destroy old leaves, stems, and debris in fall or winter. To kill young, hatching larvae, apply an insecticide to the iris beds at two week intervals from the time first growth starts until June 1.

Aphids

Aphids, or plant lice, are small, green, pink, or mealy-white insects that attack many plants. Aphids may appear on iris plants in early spring. They pierce leaves and suck the juices. When they feed, they may transmit the virus that causes iris mosaic.

To kill aphids, spray plants with an insecticide. Repeat if aphids reappear.

Verbena bud moth

Larvae of the verbena bud moth tunnel into new iris shoots and buds. Larvae are about one-half inch long. They have greenish-yellow, worm-like bodies and black heads. Mature moths do not attack irises.

Cut and burn infested shoots and buds.

Iris thrips

Larvae and adults of the iris thrips pierce the surfaces of young leaves and leaf sheaths. They suck juices that ooze from the wounds. Dry wounds become small, straw-colored spots or streaks. Flower buds blacken; plant tops weaken. Iris thrips are especially injurious to Japanese iris. Larvae of iris thrips are milky white. The black-bodied adults usually are wingless and very tiny, about one twenty-fifth of an inch long when mature.

Spray plants with an insecticide four times at weekly intervals during May and June. Do not spray during flowering.

Nematode infection

Root-knot nematodes and lesion nematodes are microscopic worms that attack irises and a wide range of other plants.

Root-knot nematodes cause distinct knots or galls on the roots. These knobby swellings on a root look like beads on a string.

When **lesion nematodes** attack iris, the roots discolor and decay. In advanced stages of infection, many roots rot off. Small, lateral roots that replace the rotted ones give the root system a matted or tufted appearance. Younger, new roots are dotted with small reddish-brown spots.

Remove and burn plants with knotted roots or plants with extensive root decay. Do not replant irises in the same place.

Some of the information in this publication was adapted from USDA Home and Garden Bulletin Number 66, by Henry M. Cathey, and from the University of Minnesota Horticulture Fact Sheet No. 26-1971, by Leon Snyder.